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DEPARTMENT OF THE ARMY
US ARMY SOLDIER SUPPORT CENTER
FORT BENJAMIN HARRISON, INDIANA 46216

ATZI-NCR-TSSRE

1 March 1982

SUBJECT: READ AHEAD PACKAGE for Briefing on Living Systems Research

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1. This is a READ AHEAD PACKAGE.

2. PURPOSE. To provide a read-ahead summarizing Living Systems research to date which will be presented in a briefing scheduled for 1000 hrs, 8 MAR 82. Inclosure 1 contains a more detailed discussion submitted only for supplemental reading.

3. DISCUSSION.

a. Introduction. In 1978 the CG, TRADOC established a small group of officers to begin conceptualizing solutions to the very serious problems revealed by the Battlefield Development Plan. This group soon turned towards the emerging field of General Systems Science for possible approaches to those problems. One approach identified, Living Systems, appeared to be a particularly useful analytical tool. Thus, the TRADOC CG authorized the initial investigation of Living Systems Theory in order to establish its relevance and utility to the U.S. Army.

b. Living Systems Theory (LST): Dr. James Grier Miller and a group of renowned scientists spent over 30 years in the research and development of LST. One of the simple truths they discerned was that any organization has only two major activities; processing information and materiel. The theory proposes there are 19 of these information and materiel processes which occur within any organization and are essential for effective operation. The research conducted was based on illuminating these processes and describing battalion operations and effectiveness in terms of them.

c. Phase I Research ('78-'79): Joint research between the University of Louisville, Army Research Institute (ARI), and U.S. Army TRADOC. This pilot research was limited to training management activities of six

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armor battalions relative to the LST information processes. The study's findings indicated Living Systems concepts distinguished among battalions of different effectiveness. Thus, this pilot research indicated the potential descriptive and diagnostic utility of LST for analysis of U.S. Army battalions.

d. Phase II Research ('80-'81): An extension of research previously conducted. Again, a cooperative effort between the University of Louisville, ARI, and TRADOC. The scope was expanded to cover not only training management but logistics and personnel management/administration in 35 battalions of all types (combat, combat support, combat service support) as related to both information and materiel/resources processes. In addition to reaffirming previous research findings, it revealed the technique could distinguish, analytically, among battalions of different effectiveness. Further, it demonstrated that in all battalions the focus is more on information processing than on materiel/resource processing. In addition it was found that a unit's effectiveness is related to its distribution of the time and effort expended by individuals towards the performance of LS processes.

e. Norms Study ('81): Resulting from previous research conducted by TRADOC/University of Louisville. The study has provided information by which a battalion's performance can be evaluated from a "process perspective" in order to guide efforts to improve the performance. Based on the establishment of norms for critical processes, remedial actions necessary to enhance performance can be identified. It was found that the areas of Personnel, Training, and Logistics have individual, unique clusters of critical process variables by which performance within an area may be adjusted.

f. Battalion Systems Analysis Package (BSAP): From the revelations of the Norms Study was developed the concept of the BSAP. This is a device which permits a battalion commander and staff to perform a self administered systemic evaluation of the battalion in the Personnel, Training, and Logistics areas. Not only diagnostic, it shall provide a means of gauging a unit against similar units and suggest remedies located in various Army publications. This research has not yet been completed.

4. POSSIBLE APPLICATION. We believe that the research experience gained by TRADOC in applying Living Systems theory to U.S. Army battalions can also be used to develop similar measures of the organizational effectiveness of equivalent Soviet battalions.

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Examining Soviet battalions from the perspective of the 19 Living System sub-systems, may provide the U.S. intelligence community with new insights into the strengths and weaknesses of Soviet battalions that might not be evident through a more traditional organizational analysis.

Living System theory is rooted in the idea that cells and organisms represent a compact definite organic unity or system; and, that 19 sub-systems (which process inputs, throughputs, and outputs of various forms of matter, energy, and information) are essential to life. When living beings aggregate, say into organizations, the same definiteness of pattern is recovered, and many of the same characteristics are discernable. Our research purpose would be to look at Soviet battalion organizations as if it were a "living system" in order to find out which of its 19 sub-systems were either weak or missing. Especially crucial is the identification of those processes which are inefficient and thus vulnerable to exploitation. The disruption of these critical processes can be devastating to the entire system.

In the first phase, we would limit our research to comparing the characteristics of the battalion organization at the higher levels of the Soviet battalion organization with the 19 Living System sub-systems. If this proved productive, we would then proceed in subsequent phases to apply the theory down to the lowest unit level.

We propose, therefore, to undertake a limited but holistic study of the Soviet battalion using Living Systems theory. The end product of this research would be a research paper describing our findings, comparing them with what was learned from our TRADOC research, and setting forth recommendations on the potential benefits to be gained from continuing the research.

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1 Incl
As stated

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